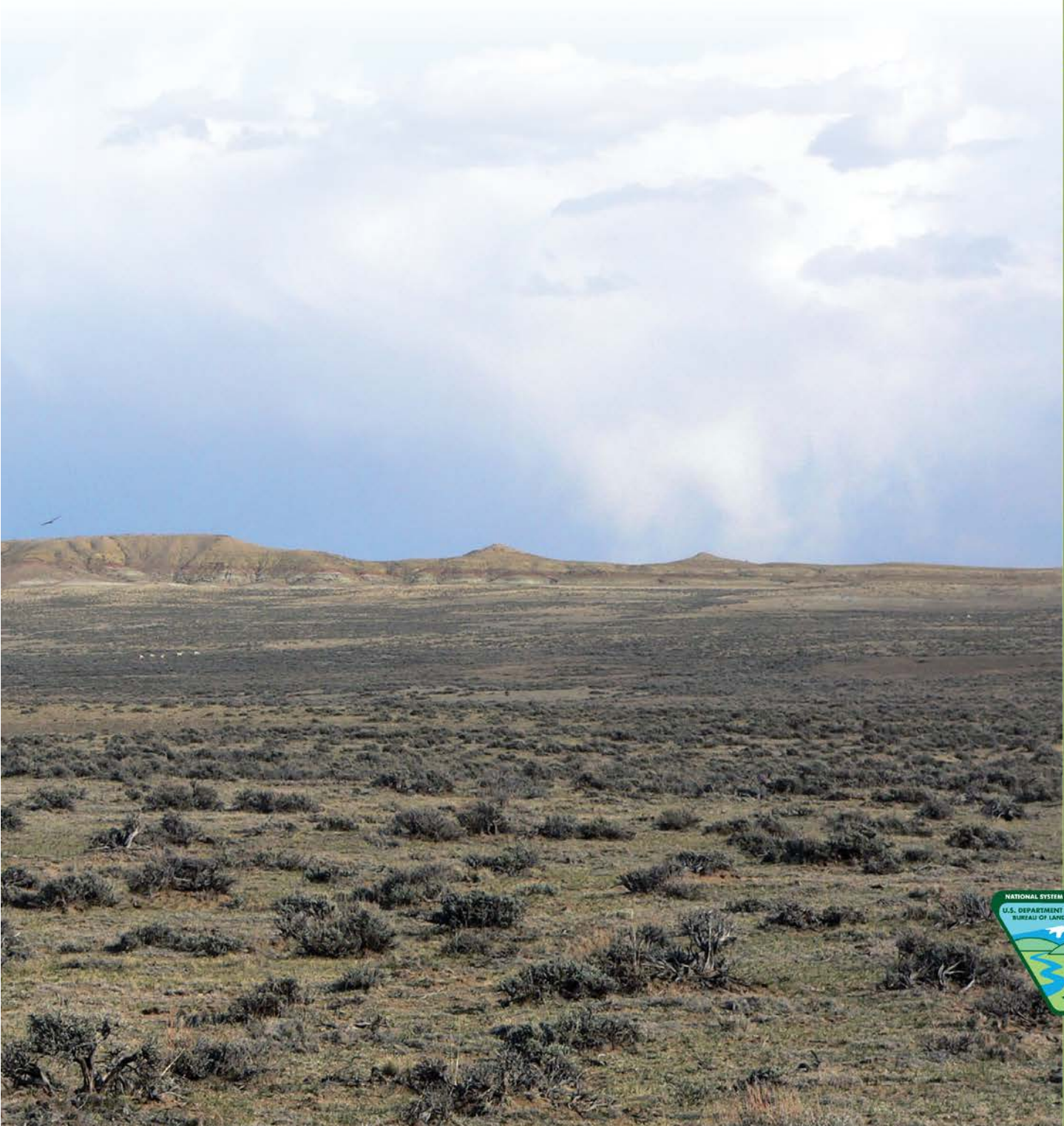


Record of Decision

Continental Divide-Creston Natural Gas Development Project

September 2016



The Bureau of Land Management is responsible for the stewardship of our public lands. The BLM's mission is to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

BLM/WY/PL-16/013+1330

ACRONYMS AND ABBREVIATIONS

AO	Authorized Officer
APD	Application for Permit to Drill
AQD	WDEQ Air Quality Division
AQRV	Air Quality Related Value
AQTSD	Air Quality Technical Support Document
ARMPA	Approved Resource Management Plan Amendment
BA	Biological Assessment
BACT	Best Available Control Technology
BO	Biological Opinion
BP	British Petroleum
BLM	Bureau of Land Management
BMP	Best Management Practice
CBRT	Conservation Bank Review Team
CD-C	Continental Divide-Creston Natural Gas Development Project
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COA	Condition of Approval
DEIS	Draft Environmental Impact Statement
DOI	Department of the Interior
EPA	Environmental Protection Agency
FACA	Federal Advisory Committee Act
FEIS	Final Environmental Impact Statement
FLPMA	Federal Land Policy Management Act
FWS	Fish and Wildlife Service
GHG	Greenhouse Gas
GHMA	General Habitat Management Area
IBLA	Interior Board of Land Appeals
IG	Implementation Group
MLA	Mineral Leasing Act
NEPA	National Environmental Policy Act
NOA	Notice of Availability
NOI	Notice of Intent
PHMA	Priority Habitat Management Area
RDF	Required Design Feature
RFD	Reasonably Foreseeable Development
RFO	Rawlins Field Office
RMP	Resource Management Plan
ROD	Record of Decision
ROW	Right-of-Way
SCR	Selective Catalytic Reduction
USDI	United States Department of the Interior
VOC	Volatile Organic Compound
WAAQS	Wyoming Ambient Air Quality Standards
WDEQ	Wyoming Department of Environmental Quality
WHMA	Wildlife Habitat Management Area

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- Attachment 2. COAs, Mitigation Measures, and BLM Environmental Constraints
- Attachment 3. BMP Data Submission Guidelines
- Attachment 4. Watershed Monitoring Plan
- Attachment 5. Fugitive Dust Control
- Attachment 6. Landscape Scale Mitigation
- Attachment 7. Reclamation
- Attachment 8. Response to Comments on the FEIS
- Attachment 9. Biological Opinion

1.0 APPROVAL

I hereby approve the decision described in **Section 3.0**.

This decision may be appealed to the Interior Board of Land Appeals (IBLA), Office of Hearings and Appeals, U.S. Department of the Interior, in accordance with the regulations contained in 43 CFR 3165.4. The appeal must also be filed with the State Director, BLM, Wyoming State Office, P.O. Box 1828, Cheyenne, WY 82003 or 5353 Yellowstone Road, Cheyenne, WY 82009.

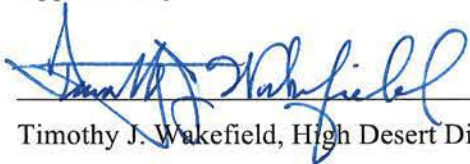
If you wish to file a petition pursuant to 43 CFR 3165.4(c) for a stay (suspension) of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed in 43 CFR 3165.4(c), which include:

- The relative harm to the parties if the stay is granted or denied;
- The likelihood of the appellant's success on the merits;
- The likelihood of irreparable harm to the appellant or resource if the stay is not granted; and
- Whether the public interest favors granting the stay.

If a petition for stay is submitted with the notice of appeal, a copy of the notice of appeal and petition for stay must be served on each party named in the decision from which the appeal is taken, and with the IBLA at the same time it is filed with the State Director. A copy of the notice of appeal, statement of reasons and all pertinent documents, must be served on each adverse party named in the decision from which the appeal is taken and on the Office of the Regional Solicitor, U.S. Department of the Interior, 755 Parfet Street, Suite 151, Lakewood, CO 80215, no later than 15 days after filing the document with the State Director and/or the IBLA.

If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Approved By:



Timothy J. Wakefield, High Desert District Manager

Approval Date:

Sept. 22 2016

2.0 SUMMARY

BP America Production Company (BP), representing itself and more than 20 other natural gas development companies (collectively referred to as the Operators), proposed to the U.S. Department of the Interior (USDI) Bureau of Land Management (BLM) Rawlins Field Office (RFO) to conduct infill drilling in order to develop natural gas and condensate resources within two previously developed project areas described as the Continental Divide/Wamsutter II and Creston Blue Gap project areas. The consolidated proposal is designated as the Continental Divide/Creston (CD-C) Natural Gas Development Project.

The CD-C project area consists of approximately 1.1 million acres within an existing natural gas producing region between Rock Springs and Rawlins, Wyoming (Attachment 1). The project area is located on lands and minerals administered by the BLM (626,932 surface acres or 58.6% of the project area) and the State of Wyoming (48,684 surface acres, or 4.5%) as well as private lands (394,470 surface acres, or 36.9%) in Carbon and Sweetwater Counties. The central portion of the CD-C project area has a checkerboard pattern of mixed ownership characterized by alternating sections of public and private landownership.

The Operators proposed drilling up to 8,950 infill natural gas wells. The precise locations of the wells have not been identified at this time. More than 4,700 wells have already been drilled within the CD-C project area under previously authorized drilling programs; over 500 of those have been plugged and abandoned with the surface reclaimed. Supporting infrastructure associated with the existing development includes access roads, compressor stations, a central gas-processing plant, water management facilities, gas and water pipelines, and electric power lines.

3.0 THE DECISION

The BLM has determined that the analysis contained within the FEIS is adequate for the purposes of reaching an informed decision regarding the CD-C natural gas development project. This ROD applies only to the BLM-administered lands and federal mineral estate within the CD-C project area.

The decision is hereby made to allow natural gas drilling on leased federal lands within the analyzed development area depicted in Attachment 1, as described in the CD-C FEIS Agency Preferred Alternative (Alternative F) and subject to approved applications for permits to drill (APDs). Further, future exploration and development activities will be subject to the Conditions of Approval (COAs) presented in Attachment 2.

The primary components of the Selected Alternative are described in detail in Section 2.2.6 of the FEIS and are outlined below. This decision is conceptually depicted in the maps included in Attachment 1. The Selected Alternative was developed in response to comments received on the Draft EIS (DEIS) and is designed to incorporate actions to reduce surface impacts while still allowing for resource recovery. The Selected Alternative also aims to reduce impacts to specific resources identified during scoping and the DEIS comment period.

Under the Selected Alternative, the Operators could drill as many as 8,950 natural gas wells and construct associated infrastructure and ancillary facilities. It is expected that oil and gas operators will meet individually with the BLM, on a regular basis, to discuss proposed development plans for the CD-C project area with the understanding that the BLM will not breach confidentiality regarding proposed future development plans.

The BLM will require, monitor, and enforce the following design features of the Selected Alternative:

- All design features and standard operating procedures of the Selected Alternative, as described in Chapter 2 of the FEIS (unless superseded by site-specific COA). The primary components of this alternative include the following:
 - BLM-authorized federal lease operations (including well pads, access roads, pipelines, and ancillary facilities) located within ½ mile of Muddy Creek, Red Wash, and/or Bitter Creek, and within ¼ mile of playas within the Chain Lakes Wildlife Habitat Management Area (WHMA), will be subject to the following surface use COAs:
 - Submission of bi-annual stormwater Best Management Practices (BMPs) monitoring data collected by the Operators to the BLM. The data will include BMP type, condition, and maintenance needed (if any). Inspection reports will include, at a minimum, an electronic map depicting locations of BMPs and electronic spreadsheets describing the status, and if necessary, proposed maintenance or replacement of degraded or non-functioning BMPs. If a 20-percent overall BMP failure rate or a 5-percent recurring failure rate of individual BMPs is observed, corrective measures will be implemented, which will include additional site-specific BMPs, immediate corrective actions, and other measures to ensure BMPs are successful. A failed BMP is defined as one that is no longer effective in retaining sediment or serving the purpose it was designed to achieve. Attachment 3 details data submission guidelines.
 - Boring of all pipeline crossings of perennial drainages and riparian areas identified on a site-specific basis.
 - All interim reclamation structures such as mulch, matting, silt fences, etc., must be installed and functional within 30-days of well completion;
 - Closed or semi-closed-loop drilling will be required.

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- Closed-loop drilling will be required within ¼ mile of Muddy Creek, Red Wash, Bitter Creek and playas within the Chain Lakes WHMA
- The monitoring plan for Muddy Creek (Attachment 4) will be implemented by the BLM.
- Additional site-specific measures may be developed during the onsite; exceptions or modifications to the above stated measures may be granted on a site-specific basis and would generally be dependent on the geology of the area, weather, and/or wildlife.
- The Operators will be limited to no more than eight well pads per square mile on BLM-administered lands to minimize surface disturbance and encourage directional drilling.
 - Exceptions could be granted on a case-by-case basis (e.g. to be consistent with existing lease rights and the Rawlins Resource Management Plan (RMP)), and the Operator must establish that the drilling objective would not be achievable without the construction of additional well pads in areas already having eight well pads per square mile.
- The expansion of individual well pads in areas already exceeding eight well pads per square mile will only be authorized on a site-specific basis.
- Road and pipeline networks and well pads will be sited to avoid, to the extent practicable, identified sensitive wildlife habitat such as big game winter range and/or migration corridors to reduce habitat fragmentation and minimize disturbance.

3.1 CD-C IMPLEMENTATION GROUP

A CD-C Implementation Group (IG) will be formed and be comprised of the BLM and representatives of those agencies and governments that cooperated during the development of the EIS, including:

- State of Wyoming agencies;
- Sweetwater County Conservation District;
- Little Snake River Conservation District;
- Sweetwater County; and
- Carbon County.

The BLM will provide leadership and direction for the IG, and decisions pertaining to issues within the CD-C project area will be the responsibility of the Rawlins Field Office (RFO) Manager, with advice and input from the IG. The IG will be managed by a BLM employee designated by the RFO Manager. The purpose of the group will be to respond to evolving energy issues, and to develop responses to issues identified pertaining to reclamation, socioeconomics, transportation, and other issues as identified by stakeholders within the CD-C project area. In addition, the group will work towards identifying potential compensatory mitigation mechanisms, if deemed necessary (see Attachment 6, Landscape Scale Mitigation); and will be responsible for the development of an adaptive management framework.

3.1.1 Public Meetings

Issues for IG consideration may be identified via a public meeting(s) that will be held at least annually and more often if requested by either the BLM or the IG. Members of the IG, public, industry representatives, landowners, livestock permittees, representatives from non-governmental organizations, and other stakeholders will be encouraged to attend the public meetings in order to receive updates on the progress of the project and identify issues of concern.

The BLM will issue a press release scheduling the public meeting at least two weeks prior to the date of the meeting; the BLM will organize and lead the meeting. Information will be presented pertaining to current activity in the field including ongoing development, reclamation activities, transportation, socioeconomics, and other topics as identified or suggested. The public meetings should be organized as

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open house-style meetings, with informative posters and representatives from the BLM and cooperating agencies present in order to answer questions, provide information, and respond to the public interest. The BLM may also develop a presentation concerning these issues, and will also ensure that information regarding the resolution of previously identified issues is available. The BLM may also discuss any publicly available proposed future development (i.e. permits that have already been approved or can otherwise be obtained by the public) to encourage landscape scale planning. Other entities/stakeholders may also request to present information; approval of these requests will be at the discretion of the RFO Manager.

3.1.2 Identification of Issues

Members of the public will be invited to submit issues for consideration. Issues may also be identified by the Monitoring Without Borders (see Appendix I of the FEIS) group, internal BLM staff, cooperators, and others as appropriate. Issues should be programmatic in nature (or larger in scale than those routinely encountered by BLM staff) such as transportation planning, weed management, or large-scale erosion issues, among other issues. For example, erosion occurring on a pipeline ROW threatening soil stability and potentially affecting water quality would be considered an appropriate issue for consideration by the IG; minor erosion at a single culvert crossing would not require the attention of the IG. The IG process should not hinder the BLM's routine management of resources on a day-to-day basis. The BLM will be responsible for maintaining records of issues submitted.

The BLM, with input from the IG, will prioritize the issues. Issues can be presented to the RFO Manager or the delegated RFO staff either via email, telephone, or written letter (received at any time with a minimum of at least one week prior to the public meeting), or can be presented at the public meeting. Issues identified prior to the public meeting will be given priority for discussion at the public meeting. The RFO Manager will retain discretion on which issues will be considered by the IG for resolution.

3.1.3 Implementation Group Meetings

The RFO Manager will provide overall leadership for the IG, and will retain ultimate decision-making authority for the group. The IG will meet at least once per calendar year, either in person or via some other agreed upon mechanism. The severity of the issue(s) identified (see paragraph above) will determine the timing of IG meetings (i.e. immediately following the public meeting or at some later date). Not all members of the IG will need to be present in order for the IG to meet or to make recommendations to the BLM; however, the majority of members should be represented. The BLM will make every effort to include representatives from cooperating agencies via email and telephone as appropriate. The purpose of the IG meetings will be to develop resolutions to issues.

IG meetings will be open to the public, but members of the public may not actively participate in the meetings. Any comments or suggestions that members of the public may have at these meetings may be communicated to the IG via written comment during and/or after the meeting or oral comments following conclusion of the meeting.

The IG may request information from members of the public and other stakeholders (i.e. industry development plans, wildlife monitoring information, or other technical expertise as necessary) in order to help inform the discussion and problem-solving process. In addition, the IG may invite stakeholders to help develop resolutions for a specific issue, or to provide technical expertise to assist with resolution of an issue.

The IG will establish a rough timeframe for resolution of an issue following identification of the issue; the timeframe for issue resolution will depend on the severity and complexity of the issue, as well as other priorities of the BLM and cooperating agency staffs.

Ad hoc groups may be formed by the IG, if and as needed, to assist in developing appropriate responses to identified issues. Not every issue will require the formation of an *ad hoc* group; they would be formed if

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greater technical expertise (beyond that represented by the IG) is required to address an issue. For example, if large-scale erosion is occurring on a ROW and threatening water quality, it may be preferable for the IG to consult a hydrologist regarding the solution. The *ad hoc* groups will be comprised of appropriate BLM staff (such as wildlife biologists, hydrologists, petroleum engineers, and others as appropriate) and corresponding cooperating agency staff. The IG will identify a lead for the *ad hoc* group; this responsibility may be delegated to BLM or cooperating agency staff. *Ad hoc* group meetings will not be open to the public. The IG will develop a timeframe, at the discretion of the RFO Manager, for the *ad hoc* group(s) to report back to the IG regarding proposed resolution(s) of the issue.

3.1.4 Issue Resolution

The RFO Manager will retain decision-making authority regarding the resolution of identified issues within the CD-C project area. The IG, with input from *ad hoc* groups as needed, will provide the BLM with recommendations towards resolving issues within a reasonable timeframe, depending on the complexity and severity of the issue. Issues that require the formation of an *ad hoc* group may take longer to resolve than issues that the IG is capable of resolving on its own. The RFO Manager may also present resolutions to issues to the IG prior to receiving recommendations from the IG, and, if necessary, make a decision on issues prior to receiving IG recommendations. For example, prompt action on the part of the RFO Manager may be necessary if issues threatening health and human safety are identified, or other issues that require immediate action.

Recommendations from the *ad hoc* group(s) to the IG will be formalized via internal memos which will be retained in the project file. These recommendations do not need to be unanimous. The IG may request additional information from the *ad hoc* groups in order to inform the resolution process; however, once the IG has received recommendations from the *ad hoc* group the IG will strive to make a recommendation to the RFO Manager as quickly as possible.

Recommendations from the IG to the BLM will be formalized via recommendation memos which may be made available to the public. Recommendations from the IG to the RFO Manager do not need to be unanimous. Recommendations to the BLM from the IG and *ad hoc* groups must be within the purview of the BLM and in conformance with the applicable land use plan and consistent with lease rights granted.

The RFO Manager will either decide to implement, implement with modifications, or reject the IG's recommendation(s) within a reasonable timeframe of receiving a recommendation memo from the IG. The RFO Manager should keep the IG informed of the decision-making process when necessary. Any modifications or rejections of the IG's recommendation(s) will be noted and/or explained in the RFO Manager's decision memo. If the recommendation(s) is/are rejected by the RFO Manager, and the RFO manager requests the IG develop an alternative solution, the IG will reconvene to discuss and determine an alternate solution(s) for the issue(s) within two weeks, depending on other priorities, following the RFO Manager's decision.

If the RFO Manager decides to implement, or implement with modifications, the IG's recommendation(s), a timeframe for resolution of the issue will be suggested in the decision memo. This timeframe will depend on the severity and complexity of the issue(s), as well as weather and other priorities such as staff availability. Monitoring will be necessary to determine the successful implementation of recommendations and issue resolution. The BLM will make the decision memo available to the public, and the BLM will be responsible for implementing the decision. The decision memo will not constitute an appealable decision. Additional analyses under NEPA may be required in order to implement the decision memo (depending on the recommendations and decisions); the decision that would occur as a result of that NEPA analysis will comply with all relevant rules and regulations.

The BLM will be responsible for reporting back to the public at either a public meeting or other mechanism regarding the status of issue resolution. The BLM will be responsible for maintaining all records associated with issue resolution.

3.1.5 Site Visits and Field Trips

Site visits to location(s) with identified issues within the CD-C project area will be arranged, as needed, by the IG and/or BLM on a case-by-case basis, depending on the complexity and severity of the issue(s) identified. The purpose of the field trip or site visit will be for the IG (and *ad hoc* groups, if necessary) to gain a better understanding of the issue and to help develop a more landscape scale solution to the issue. Industry and/or other subject matter experts outside of the BLM and cooperating agencies may be invited to attend the field trip if considered necessary. Field trips and site visits will be issue-driven and targeted to sites that were identified as issues. Some issues will not require the necessity of a field trip or site visit. In addition, if no issues are identified, and/or the IG and BLM decide that no field trip is necessary, then a field trip would not occur. The BLM will retain final discretion on the necessity and focus of field trips, depending on staff workload and other priorities.

3.1.6 Adaptive Management

The processes and procedures described in the previous section for the activities of the IG may be modified if deemed necessary, with the RFO Manager retaining ultimate discretion in adopting proposed modifications to the existing process and procedures. Proposed changes to the process can be brought forward by any stakeholder (including any BLM staff, cooperating agency staff, industry, landowners, and others) to the IG or to the BLM directly for consideration.

The IG will be responsible for developing an adaptive management framework within 180 days of signature of this ROD for the CD-C project area that will include at least the following elements:

- Responding to changes in BMP success rates as defined in Attachment 3;
- Developing an adaptive management framework for Greater Sage-Grouse management within Priority Habitat Management Areas (PHMAs) in the CD-C project area;
- Developing responses to monitoring that demonstrates unsuccessful achievement of issue resolution;
- Developing responses to monitoring conducted by the Monitoring Without Borders Group that demonstrates positive and negative impacts to sensitive wildlife species;
- Developing responses to Transportation Issues; and
- Any other elements that require IG attention at the discretion of the RFO Manager.

The RFO Manager will have ultimate discretion over the adaptive management framework. The BLM will consult with the IG¹, and work with industry to identify potential mitigation and compensatory mitigation sites and projects when compensatory mitigation is required. The BLM will encourage the continued involvement of all stakeholders in order to help inform the siting of compensatory mitigation measures, in coordination with the IG.

3.2 AIR QUALITY

The goal of the air quality mitigation plan for the CD-C project is to ensure that field-wide emissions of oxides of nitrogen (NOx) and Volatile Organic Compounds (VOCs), the precursor pollutants for ozone formation, and particulate matter emissions primarily from fugitive dust are sufficiently mitigated to ensure no significant impacts to air quality and Air Quality Related Values (AQRVs) from project development activities.

¹ For Greater Sage-Grouse compensatory mitigation, the State of Wyoming's compensatory mitigation oversight team may be represented on the IG.

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Operators have already committed to use Tier II engines on drill rigs and construction equipment. Two milestones will be implemented to ensure that emission reductions are occurring annually in comparison to the modeled proposed action emissions.

1. No later than 60 months after signing of this ROD, all operators will use Tier IV or Tier IV-equivalent drill rig engines. Each operator will provide written certification to the BLM when they have achieved this milestone.
2. Within 72 months after signing of this ROD, the Operators will submit a demonstration of progress to the BLM and WDEQ-AQD through a revised emissions inventory and modeling analysis. The modeling analysis will address all criteria pollutants, air quality related values (AQRV) impacts including visibility, deposition and lake acidification, and a revised quantification of greenhouse gas (GHG) emissions. The modeling analysis will be conducted according to protocols and standards established by the BLM and WDEQ, in consultation with EPA. The new modeling conducted and funded by the Operators shall include all WDEQ BACT requirements, emission control technologies in use at the time, as well as pending federal and state regulations that are anticipated to be finalized and implemented at the time the modeling is completed. A report will be prepared that will summarize the emission reductions and air quality impacts relative to the current FEIS modeling analysis.

BLM, WDEQ-AQD, and the Operators will work together to evaluate impacts and, if needed, review and employ, within their respective authorities, the most effective technologies available to address modeled or monitored adverse impacts to air quality and/or AQRVs. Operators are encouraged to implement any of the following measures as soon as feasible, within any limits or constraints that may impact other resources, to minimize air quality impacts from field development activities:

- Replacing diesel-fired drill rig engines with natural gas-fired drill rig engines,
- Reducing the number of drill rigs used annually
- Installing selective catalytic reduction (SCR) on drill rig engines,
- Implementing electric compression and field electrification for well pads
- Centralization of production facilities to reduce truck traffic
- Adopting cleaner technologies for completion activities
- Plan and develop multi-well pads to the maximum extent possible

Implementation. The following measures will be implemented to ensure that air quality impacts are monitored and mitigated if necessary:

3. Operators will submit an annual report to the BLM no later than March 31 of each calendar year reporting the activity levels for the previous calendar year to include the number of wells constructed, drilled, and completed, any other additional facilities such as compressor stations or produced water evaporation ponds that were constructed, the number of active drill rigs per operator, and a summary of any emission reduction technologies that have been implemented either voluntarily or required through regulation. Emission reductions relative to the proposed action emissions shall be quantified for comparison purposes. This report will be made publicly available. The annual report will continue through the development period (i.e. active drilling/completion operations).
4. The BLM will conduct ambient air monitoring downwind of the CD-C project area. The current proposed location is within the vicinity of Saratoga, Wyoming. Air quality monitoring will be conducted through a cooperative agreement with the University of Wyoming utilizing a mobile air quality monitoring laboratory. The mobile laboratory is equipped with pollutant analyzers and a meteorology station. The following parameters will be measured and analyzed according to EPA approved methods at the proposed location: Ozone (O₃); nitric oxide (NO), nitrogen dioxide (NO₂),

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and oxides of nitrogen (NO_x); methane (CH₄), and nonmethane hydrocarbons (NMHC); carbon monoxide (CO); and particulate matter (PM_{2.5}). The duration of monitoring activities will be determined by the BLM and subsequent monitoring locations may be identified as field development occurs. The BLM will coordinate with the WDEQ-AQD regarding monitoring locations. All monitoring data collected at the designated site will be publicly available on the BLM's WARMS website www.blmwarms.net.

5. To ensure continued attainment of the Wyoming Ambient Air Quality Standards (WAAQS), the BLM and WDEQ will assess monitoring data within and near the project area annually in conjunction with the Operator's annual report. If WDEQ determines that ozone levels are exceeding the WAAQS and could result in a potential violation of the standard, the BLM, WDEQ and the Operators will develop an appropriate strategy to address elevated ozone levels in the project area and implement additional emission controls or operational limitations within their respective authorities. Reductions in the pace of development may be utilized to ensure ambient air quality standards are met.
6. Based on the current modeling analysis for hazardous air pollutant emissions, the following facilities, when constructed, will be sited outside of the following buffer zones to ensure public health and safety:
 - Evaporation ponds used for disposal of produced water will be sited **a minimum of 1.0 mile** from any residence or occupied dwelling. Evaporation ponds will be fenced and appropriate hazard signage will be placed.
 - Compressor stations will be sited **a minimum of 1.0 mile** from any occupied residence or dwelling.
 - Gas Plants will be sited **a minimum of 1.0 mile** from any occupied residence or dwelling.
7. The RFO Manager will determine on a case-by-case basis the need for additional dust suppression measures, as outlined in Attachment 5, such as chemical dust suppressants, on heavily travelled roads and require such measures as COAs for APDs, Sundry Notices, or terms and conditions on a ROW.

4.0 WHAT THE DECISION DOES NOT PROVIDE

Decisions contained within this document apply only to BLM-administered federal lands and fluid minerals, although agencies and individuals that have adjoining lands may, at their discretion, use all relevant and reasonable mitigation measures contained within this ROD, which have been identified through a comprehensive environmental analysis.

This ROD does not authorize site-specific construction, maintenance, or use of new wells, pads, pipelines, or other facilities on BLM-administered lands. Rather, the Operators are required to submit APDs, Sundry Notices, and/or Right of Way (ROW) applications for approval of wells, well pads, pipelines, roads, and other ancillary facilities associated with project development. Site-specific environmental review and approval of such applications are required prior to initiation of surface-disturbing activities.

4.1 MITIGATION MEASURES NOT CARRIED FORWARD

The Wildlife Section of the FEIS identified that monitoring of migration corridors to determine which fences restrict movement would be incorporated as a mitigation measure. However, monitoring is not mitigation; therefore, this mitigation measure has been removed. Monitoring of impacts to wildlife species will continue to be managed under the Monitoring Without Borders framework detailed in Appendix I of the FEIS.

4.2 STATEMENT ON EXISTING AND HISTORICAL AUTHORIZATIONS

The CD-C project is primarily an infill development project; there are numerous existing authorized oil, gas, and ancillary facilities that were permitted under previous, and often different, stipulations and conditions of approval. This ROD in no way replaces any stipulations, conditions of approval, or terms and conditions of any previously authorized and constructed APD, ROW, or ancillary facility permits. Unless otherwise provided for in a future BLM decision (with accompanying NEPA compliance), future authorizations within the CD-C natural gas project area will comply with the required design features of the selected alternative, and the COAs, terms & conditions, and mitigation measures described in Attachment 2 of this ROD, as well as other site-specific measures as identified and decided upon by the BLM.

5.0 SUMMARY OF ALTERNATIVES

5.1 OVERVIEW

Six alternatives were considered in detail in the FEIS, including the Proposed Action. For a complete description of these alternatives, refer to Section 2.2 in the FEIS. Section 2.4 of the FEIS provides a detailed comparison of the alternatives. Table ES-2 presents a comparison of impacts by alternative; Table 4.0-1 presents the estimated potential surface disturbance by alternative. Three alternatives were considered and eliminated from detailed study in the FEIS (Section 2.3 of the FEIS):

- Surface disturbance cap with reclamation credits and debits;
- Focused development; and
- Alternative A: 100- percent vertical drilling.

5.2 ALTERNATIVES CONSIDERED

The six analyzed alternatives within the CD-C FEIS include:

- Proposed Action;
- Enhanced Resource Protection (Alternative B);
- Disturbance Cap – High and Low Density Development Areas (Alternative C);
- Directional Drilling (Alternative D);
- No Action (Alternative E); and
- Agency Preferred (Alternative F).

5.2.1 The Proposed Action

Under the Proposed Action, up to 8,950 additional natural gas wells would be drilled from an estimated 6,126 well pads. Spacing of well pads would vary according to location within the project area. An estimated 42 percent of the future wells would be located on multi-well pads where multiple wells would be drilled to formation directionally from a single well pad. To fully develop the targeted resources, the Operators would collectively drill the new wells at the average rate of approximately 600 wells per year over a period of 15 years. The productive life of each well is estimated to be 30 to 40 years. Combining well life with a 15-year production period produces a potential project life of 45 to 55 years. In support of these new wells, the Operators would construct additional access roads, pipelines, overhead and buried electric power lines, a gas processing facility, water management and disposal facilities, and equipment storage facilities. The total new surface disturbance for the Proposed Action is an estimated 47,200 acres.

5.2.2 Alternative B: Enhanced Resource Protection

Under Alternative B, up to 8,950 wells from an estimated 5,798 well pads. The premise of this alternative is that some resources may be more at risk from intensive natural gas development and thus may require protections and mitigations beyond the basic measures ordinarily applied. The alternative identifies the following resources that may be more at risk from natural gas development:

- Mule deer crucial winter range and migration corridors;
- Pronghorn crucial winter range and migration corridors;
- Ferruginous hawk nesting habitat;
- The Muddy Creek and Bitter Creek corridors and watersheds;
- Chain Lakes alkaline wetland communities and other playas; and

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- Livestock forage.

Each resource has basic protections provided by the RFO Resource Management Plan (RMP) requirements, BMPs, COAs, and terms and conditions on ROW grants. This alternative would add enhanced protections to each APD or ROW grant on BLM-administered lands and federal mineral estate in the appropriate habitat or area of the identified sensitive resource. One of the enhanced protections would require that APDs in most of the identified habitats above be submitted as part of a development plan, the aim of which would be to limit overall impacts. For some resources, further protections and mitigations would be applied only if a threshold were reached. These thresholds are defined as a specific percentage of habitat loss – 5 or 10 percent of a lease – or as a reduction of a species population to an unacceptable level. The estimated new surface disturbance for this alternative is approximately 45,516 acres.

5.2.3 Alternative C: Surface Disturbance Cap – High and Low Density Development Areas

Under this alternative, the portions of the CD-C project area that have seen the most intensive natural gas development to date would be designated as high-density development areas (Map 2-2 in the FEIS). The amount of un-reclaimed surface disturbance allowed at any one time per section of public land in these areas would be capped at 60 acres. The remainder of the project area would be designated as low-density development areas, with an un-reclaimed surface disturbance cap of 30 acres per section at any one time. The 60-acre cap represents the disturbance associated with a 9-well per section drilling program (80-acre spacing) achieved with vertical wells only, a typical development in the high-density area; a 30-acre cap represents the disturbance associated with a 16-well per section drilling program (40-acre spacing) achieved with directional drilling. All prior natural gas surface disturbance committed to long-term use for roads or on-pad production facilities and all disturbances that had not been successfully reclaimed would count against the cap. Successfully reclaimed acreage would not count against the cap. Approximately 44 percent of the CD-C project area would be within the high-density development area. The average historic surface disturbance within the high-density area is 33 acres per section, with an average of 5 wells per section. In the low-density areas, the average disturbance is 4.5 acres per section with an average of less than one well per section. About 24 percent of the CD-C project area has had no development to date. Only BLM-administered lands and mineral estate in the CD-C project area would be subject to the disturbance cap. Under this alternative, 8,950 wells would be drilled from 5,299 well pads with a new disturbance of approximately 42,955 acres.

5.2.4 Alternative D: Directional Drilling

This alternative would require that all future natural gas wells on BLM-administered lands and mineral estate be drilled from existing or new multi-well pads. In areas with no existing oil and gas development, one multi-well pad would be permitted per section (or per lease if the lease area is less than a section). A single access corridor would be permitted for necessary roads, pipelines, and electrical power distribution for each new multi-well pad. In sections with existing oil and gas development, enlargement of one existing well pad would be permitted and that pad would serve as the multi-well pad for all future drilling in that section. Proposals for access across federal lands for oil and gas development on adjacent private and state lands would continue to be considered by the BLM. Operators may request that an APD be exempted from the general rule when an extraordinary situation exists that could limit full development of the natural gas resource. It is assumed that this alternative would result in a 20-percent reduction of wells drilled to federal minerals, to 7,894 wells (instead of 8,950) from 3,728 well pads. There would be approximately 33,658 acres of new disturbance.

5.2.5 Alternative E: No Action

Under the No Action alternative, the BLM would deny the Proposed Action for natural gas development on federal lands and federal minerals within the CD-C project area. For the purposes of the analysis in the FEIS, it was assumed that development of the portion of the Proposed Action that involves private and state fluid mineral leases, an estimated 485,819 acres, would take place, as the BLM does not have jurisdiction over private and state fluid minerals. This alternative would result in an estimated 4,063 wells on 2,783 well pads; surface disturbance on private and state mineral leases is estimated at 21,440 acres. Although development of federal fluid mineral leases is assumed to occur on an individual, case-by-case basis, no estimate of the amount of such activity or the disturbance associated with it is discussed in the impact analysis.

5.2.6 Alternative F: Agency Preferred Alternative

The RFO developed the Agency Preferred Alternative in response to comments received during the DEIS public comment period that indicated that the alternatives analyzed in the DEIS did not individually fully respond to issues identified during scoping. Alternative F is designed to incorporate directional drilling to reduce surface impacts while still allowing for resource recovery. This alternative is an amalgam of elements analyzed in the DEIS; the principal elements of the alternative are:

- Water and soil management to reduce fugitive dust and impacts to air and water resources, including salt and sediment contributions to the Muddy Creek and Bitter Creek watersheds. Well pads and related facilities located within ½ mile of Muddy Creek, Red Wash, and/or Bitter Creek, and within ¼ mile of playas within the Chain Lakes Wildlife Habitat Management Area (WHMA) would be subject to the following surface use COAs:
 - Submission by the Operators to the BLM of a bi-annual BMP monitoring report;
 - Boring of all pipeline crossings of perennial drainages and riparian areas;
 - Soil stabilization of all disturbances within 30 days of well completion;
 - Closed or semi-closed loop drilling (closed loop only within ¼ mile); and
 - Yearly site visits by the CD-C discussion group.
- BLM implementation of a monitoring plan for Muddy Creek (Appendix O of the FEIS);
- Formation of a CD-C discussion group consisting of the BLM, CD-C cooperators, local landowners, and permittees that would respond to evolving energy issues and concerns related to the project, and would discuss opportunities for off-site mitigation.
- Minimization of surface disturbance to reduce impacts to vegetation, range, wildlife, and wild horse resources.
 - Operators would be limited to no more than eight well pads per square mile on BLM-administered lands with exceptions granted on a case-by-case basis;
 - Transportation planning would be implemented as outlined in Appendix N of the FEIS;
 - Road and pipeline networks and well pad placement would be carefully sited to avoid critical habitat such as big game winter range and/or migration corridors; and
 - A fugitive dust control plan (Appendix P of the FEIS) would be implemented.

This alternative would result in 8,950 wells drilled from 5,465 well pads with an approximate new disturbance of 43,808 acres.

5.3 ENVIRONMENTALLY PREFERABLE ALTERNATIVE

In accordance with the Council on Environmental Quality (CEQ) regulations (40 CFR 1505.2(b)), one or more environmentally preferable alternatives must be identified in the ROD. An environmental preferable

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alternative is an alternative that would cause the least damage to the biological and physical environment and would best protect, preserve, and enhance historic, cultural, and natural resources. The BLM has determined that Alternative E, the No Action Alternative is the environmentally preferable alternative. Under the No Action Alternative, approximately half of the wells proposed under the Proposed Action would be drilled, resulting in the fewest impacts. However, the No Action alternative does not respond to the purpose and need of the project and therefore could not be selected.

6.0 MANAGEMENT CONSIDERATIONS AND RATIONALE FOR DECISION

The BLM developed the CD-C Natural Gas Project EIS to consider the Operators' proposed project and to decide whether to deny, approve, or approve with modifications, the proposal. Based on the Final EIS analysis, the Deciding Official has determined that Alternative F would best avoid or reduce impacts to sensitive resources while still allowing for recovery of resources, as described in Section 3 of this ROD. This alternative would allow development on valid existing leases throughout the CD-C project area, and would best meet the purpose and need of the project as described below and in Section 2.2.6 of the Final EIS. The sections below outline additional considerations that contributed to the BLM's approval of the selected alternative.

6.1 PURPOSE AND NEED FOR THE PROJECT

The need for a BLM action is to respond to the proposal and to evaluate action on future plans and applications related to this proposal. The Federal Land Policy Management Act (FLPMA) of 1976 recognizes oil and gas development as one of the "principal" uses of the public lands. Federal mineral leasing policies such as the Mineral Leasing Act (MLA) of 1920 and the regulations by which they are enforced recognize the statutory right of lease holders to develop federal mineral resources to meet continuing national needs and economic demands. The purpose of the EIS is to facilitate the BLM decision-making process of whether to approve, approve with modifications, or disapprove the proposed project or project components based on an evaluation of anticipated impacts. Through this process, the BLM's purpose is to minimize or avoid environmental impacts to the extent possible while allowing the proponents to exercise their valid lease rights.

6.2 CONFORMANCE WITH BLM LAND USE PLANS

The Selected Alternative is in conformance with the Rawlins RMP ROD, approved December 24, 2008. The Rawlins RMP provides guidance for managing the 3.5 million acres of BLM-administered surface estate and 4.5 million acres of BLM-administered mineral estate within the RFO.

Changes to several elements of the Rawlins RMP that guide management of public land resources are under consideration or have recently changed, and the changes will affect management of natural gas development within the CD-C project area:

- The RFO's resolution of RMP protest issues required additional planning regarding Visual Resource Management (VRM). On April 11, 2012, the RFO published a Notice of Intent (NOI) to amend the VRM designations in the 2008 RMP. Subsequent to the completion of the 2008 RMP, the RFO updated the visual resource inventory for the planning area and is using this updated inventory as a baseline for a revised designation of VRM classes. The effect of this revision on the management of visual resources on public lands in the CD-C project is described in the CD-C FEIS, Section 4.11, Visual Resources.
- On September 22, 2015 the BLM published the Record of Decision and Approved Resource Management Plan Amendments for the Greater Sage-Grouse (ARMPA) (BLM 2015b). The Wyoming ARMPA applies to the BLM Rawlins, Rock Springs, Kemmerer, Pinedale, Casper, and Newcastle Field Offices. Separated but associated Land Use Plan Amendments were also published for the Bridger-Teton and Medicine Bow National Forests and the Thunder Basin National Grassland. The amendments, begun in 2010, provide consistent habitat management across the range of the Greater Sage-grouse using management tools that will assure net conservation gain to the Greater Sage-Grouse within core population areas. Those management actions will be applied to

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natural gas development in the CD-C project area under the Selected Alternative. Section 2.2.7.9 in the CD-C FEIS (Management of Greater Sage-grouse) provides a summary of the principal management tools from the ARMPA that will be required in the CD-C project area.

Reasonably foreseeable development (RFD) of oil and gas resources for the RFO during the 10-year life of the RMP was estimated at 8,822 wells, resulting in initial surface disturbance of 57,819 acres and residual surface disturbance of 15,472 acres including roads and pipelines. The number of wells drilled and the estimated disturbance acreage were included in the RMP for analysis purposes only, and do not represent a limit on the number of wells that could be drilled, or on the amount of surface disturbance that could result within the resource area. The RFD scenario can be used for the analysis of cumulative impacts, and the RMP contains no decisions that would cap drilling or disturbance.

7.0 CONSULTATION, COORDINATION, AND PUBLIC INVOLVEMENT

7.1 COOPERATING AGENCIES

The following cooperating agencies were given opportunities to review internal drafts, attend internal meetings, and provide feedback during the development of the DEIS, FEIS, and this ROD. Cooperating agency feedback helped define the alternatives, and refine the impact analysis and impact mitigation.

- State of Wyoming Agencies, including
 - Wyoming Game and Fish Department;
 - Department of Environmental Quality;
 - Office of State Lands and Investments;
 - Office of the Governor;
 - Wyoming Department of Agriculture;
- Carbon County;
- Little Snake River Conservation District;
- Sweetwater County; and
- Sweetwater County Conservation District.

7.2 NATIONAL HISTORIC PRESERVATION ACT SECTION 106 CONSULTATION

The BLM meets its responsibilities under Section 106 of the National Historic Preservation Act (NHPA) through implementation of a national Programmatic Agreement among the BLM, the Advisory Council on Historic Preservation (ACHP), the National Conference of State Historic Preservation Officers, and a state protocol with the Wyoming State Historic Preservation Office (SHPO).

7.3 ENDANGERED SPECIES ACT SECTION 7 CONSULTATION

The preliminary FEIS's Biological Assessment (BA) was submitted to the USFWS on October 27, 2014, to initiate formal consultation regarding the impacts associated with the Proposed Action and action alternatives. The USFWS signed a Biological Opinion (BO) on December 29, 2014, which is included as Attachment 6 of this ROD. All reasonable and prudent measures and terms and conditions from the BO have been carried forward as COAs for this ROD and can be found in Table 2.2 of Attachment 2.

7.4 PUBLIC INVOLVEMENT

7.4.1 Public Scoping

The formal scoping process for the CD-C EIS began with a NOI to prepare an EIS to analyze additional drilling in the Creston Blue Gap project area, under the title Creston Blue Gap II Natural Gas Development. The NOI was published in the *Federal Register* on September 8, 2005, inviting the public to comment on the development proposal. A public meeting was held in Rawlins on October 13, 2005. During the scoping period, the BLM received 29 individual comment letters, faxes, and e-mails. When the proposal for infill development in the Continental Divide/Wamsutter II project area was received from BP and others, the BLM decided to combine the two projects into a single EIS and initiated a scoping period for the combined projects, under the name Continental Divide-Creston (CD-C) Natural Gas Development Project. The BLM published a NOI for the CD-C EIS on April 3, 2006. A public meeting was held in Rawlins on April 6, 2006. In addition to the 29 comments received during the original scoping period, 21 comment letters, faxes, and e-mails were received for the CD-C EIS. The issues of

concern raised during scoping are summarized in Section 1.9.1.1 of the CD-C FEIS, *Key Issues and Concerns Identified During Scoping*.

7.4.2 Draft Environmental Impact Statement

A Notice of Availability (NOA) was published in the *Federal Register* on December 7, 2012 announcing the availability of the CD-C Natural Gas Development Project Draft EIS for public review and comment. The DEIS received over 8,000 comments during the 90-day comment period. Appendix L of the FEIS contains a description of the comment analysis and response process as well as each unique substantive comment received, and its associated response.

Comments were received from state, federal, and local agencies, environmental advocacy groups, leaseholders, oil and gas companies, and the general public. The majority of comments were received via email, and were dominated by a form letter created by the American Wild Horse Preservation Campaign. Key issues and concerns identified during the DEIS comment period included:

- Questions about the interpretation of the air quality analysis;
- The difficulty of complying with the requirements of Alternative B;
- The difficulty of achieving the reclamation goals of Alternative C;
- The lack of clear reclamation guidance;
- The need to minimize the impacts on the wildlife found in the project area, especially Special Status Species;
- Unclear requirements for wildlife monitoring and protection;
- Minimizing the effects on surface water quality, especially in the Muddy Creek watershed;
- Assertions that the EIS fails to recognize that some of the alternatives would reduce the project's economic benefits; the alternatives include provisions that are technologically difficult and would increase costs and would therefore reduce the amount of drilling; and
- The lack of an identified preferred alternative.

Substantive comments received during the DEIS comment period were used to develop the BLM's Preferred Alternative (Alternative F) and to modify, clarify, and correct the EIS, as appropriate, including changes to the other alternatives, reclamation guidance, and the Wildlife Inventory, Monitoring, and Protection Plan (Appendix I of the CD-C FEIS).

7.4.3 Final Environmental Impact Statement

A Notice of Availability was published in the *Federal Register* on April 15, 2016, announcing the availability of the CD-C FEIS. During the 30-day public availability period, the RFO received 17 comment letters. Letters were received from industry, environmental organizations, cooperating agencies, the EPA, and members of the public. Substantive comments and responses are presented in Attachment 8, Response to Comments on the FEIS.

8.0 ERRATA

The errata section of this ROD illustrates the BLM's revisions to the FEIS. The revisions have been developed from either comments received on the FEIS or the BLM's internal review of the FEIS. ~~Strike-outs~~ indicate that text has been removed from the FEIS. **Bold** indicates that text has been added or revised for the FEIS.

Table 1-3, Page 1-11 of FEIS

AGENCY	NATURE OF ACTION
CARBON COUNTY (Applies to non-federal lands)	
	<ul style="list-style-type: none"> Issues driveway access permits where new roads intersect with county roads Prepares road use agreements and oversize trip permits when traffic on county roads exceeds established size and weight limits, or where the potential for excessive road damage exists Requires construction/building permits and conditional use permits to insure all structures and uses Comply with the health safety and welfare standards of the Carbon County Zoning Resolution and goals and policies of the Comprehensive Land Use Plan Reviews zone change applications to ensure that the proposed land use is consistent with the Carbon County Comprehensive Land Use Plan and zone change criteria listed in the Zoning Resolution Issues permits to bore or trench county roads or for any crossing or access off a county road
Local Emergency Planning Committee	<ul style="list-style-type: none"> Requires Hazardous Materials Inventory to ensure the storage of hazardous materials is properly coordinated with the emergency providers (Right to Know Act, EPCRA-42-116-101 et seq)
Weed and Pest District	<ul style="list-style-type: none"> Provides control of noxious weeds (Wyoming Statute 1105-101 et seq)
SWEETWATER COUNTY (Applies to non-federal lands)	
	<ul style="list-style-type: none"> Requires compliance with the International Fire Code (Wyoming State Statute 35-9- Issues Construction/Use Permits to insure all structures, including oil and gas wells, and uses comply with the health, safety and welfare standards of the Sweetwater CountyDevelopment Code. (Wyoming State Statute 18-5-201 et seq.) Issues Conditional Use Permits to insure that uses such as man camps, storage of explosives, storage of radioactive material, temporary construction yards, gravel quarries,wastewater disposal facilities, solid waste disposal facilities, and similar uses comply with the health, safety, and welfare standards of the Sweetwater County Development Code.(Wyoming State Statute 18-5-201 et seq) Approves zone changes as necessary to ensure that the proposed use of the land is coordinated with the Sweetwater County Zoning Map and Land Use Plan. (Wyoming State Statute 18-5-201) Issues County Road permits and licenses including road access and road crossings. (Wyoming State Statute 24-3-101 et seq) Requires coordination with the Sweetwater County Engineering Department regarding the movement of heavy equipment on county roads and the proper use and maintenance of said roads. (Wyoming State Statute 24-3-101 et seq) Coordinates on natural resource issues in the context of the Sweetwater County Conservation District Land and Resource Use Plan and Policy
Sweetwater County Health Department	<ul style="list-style-type: none"> Issues small wastewater permits (Wyoming State Statute 35-11-101 et seq)

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AGENCY	NATURE OF ACTION
Local Emergency Planning Committee	Requires Hazardous Materials Inventory to ensure the storage of hazardous materials is properly coordinated with the emergency providers (Right to Know Act, EPCRA-42-116-101 et seq)
Weed and Pest District	Provides control of noxious weeds (Wyoming Statute 1105-101 et seq)

Section 2.2.6, Page 2-16 of FEIS

- ~~• Soil stabilization of all disturbances within 30 days of well completion~~
- **All interim reclamation structures such as mulch, matting, silt fences, etc., must be installed and functional within 30-days of well completion;**

Appendix C, page C-9 of FEIS

Construction COA # 14: Drainage and run-on/runoff shall be diverted away from all new construction naturally or through the use of diversion ditches/berms and/or soil berms or stockpiles. All drainage structures shall approximate topographic contour lines, have a grade no greater than 0.5 to 1 percent, and shall release water onto natural undisturbed ground without causing additional and/or accelerated erosion. ~~Drainage structures shall not discharge directly into/onto natural drainages/channels, and/or use riprap or other armoring to protect from erosion (BLM Manual 9113).~~ Water-bars, ~~waddles~~ **wattles**, hay bales, and/or silt fences shall be used as needed to reduce surface runoff velocity and promote upland **sediment deposition, thus reducing drainage/channel sedimentation and erosion.**

Appendix Q2, Biological Opinion

Page 30 of the original Biological Opinion was repeated as page 31, and the original page 31 was not included in Appendix Q2. A corrected version that includes the original page 31 of the Biological Opinion is included as Attachment 9 to this Record of Decision.

Appendix S, Landscape-Scale Mitigation (FEIS)

The BLM received numerous comments on Appendix S of the FEIS. The BLM revised Appendix S (now Attachment 6 of this ROD) to provide the public greater clarity on the process by which the BLM identifies and implements mitigation.